

HURRICANE MITCH RECONSTRUCTION UPDATE



USAID/Nicaragua Hurricane Mitch Reconstruction Program

<i>(U.S. Millions of Dollars)</i>	<i>\$103.6</i>
<i>Public Health</i>	<i>30.1</i>
<i>Economic Reactivation</i>	<i>59.1</i>
<i>Education</i>	<i>4.5</i>
<i>Municipal Infrastructure</i>	<i>4.4</i>
<i>Transparency and Accountability</i>	<i>1.0</i>
<i>Food Aid</i>	<i>4.5</i>



Departments of Nicaragua
Affected by Hurricane Mitch

GREENHOUSE VEGETABLE PRODUCTION INCREASING YIELDS FOR SMALL FARMERS

Chinandega, Nicaragua—The small vegetable farm at the Hogar del Niño (The Children's Home) orphanage is becoming something of a model for small producers throughout Nicaragua's countryside. Groups of farmers are coming to this hot, dusty, corner of the country in the northwest department of Chinandega to see the 10-foot-high greenhouse tomato plants, and to observe the drip irrigation system that has cut production costs considerably.

The Hogar del Niño is participating in a USAID agricultural program to promote crop diversification and new farming methods that could increase production for small producers while protecting the environment. The \$134,000 project is being implemented through Winrock, a private U.S. firm contracted by USAID.

The farm provides employment for 32 farm workers in the Chinandega area and an income for the orphanage of



Using a drip irrigation system, the Hogar del Niño has cut costs and increased their yields. Income from the farm, helps support the boys' home.

140 boys. The Hogar del Niño was founded in 1960 by Father Adelino Fossa, an Italian priest of the Jesus Divino Obrero (Jesus the Divine Worker) order. The orphanage provides lodging, meals, medical services and education for orphans or "at risk" children. Vocational training, including agriculture, mechanics, printing and baking is provided for the older boys.

The farm at the home was basically a pasture with 10 cows before receiving assistance from USAID. Now it has become a pioneer in vegetable growing for Chinandega and a model for the rest of the country.

The USAID effort promotes the planting of a variety of vegetables, using environmentally safe methods, and commercial marketing strategies to help producers with small farms increase their



One technique, learned through the USAID / Winrock project is to use seed trays to plant individual seeds and control growth before transplanting. This method reduces the losses from planting seeds directly in the ground.

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GREENHOUSE VEGETABLES INCREASE YIELDS...

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yields and incomes. Where before the Hogar del Niño planted mainly beans and corn, it now has its 10-hectare farm planted with tomatoes, baby corn, green peppers and cucumbers. The farm has already secured a market for the vegetables with Horti-Fruti, an international company supplying fresh produce to major Nicaraguan supermarket chains.

The project has also built two large basins to store water for a drip irrigation system. Pipes are connected to the basins and laid out over the planting areas. The pipes have small perforations to allow water to drip into the soil around each individual plant. Water pressure and flow is controlled with regulating valves according to irrigation needs. The drip irrigation system saves water and helps prevent the spread of harmful fungus. It also allows farmers to efficiently and economically fertilize crops through the irrigation pipes.

One of the innovations introduced at the Hogar del Niño is greenhouse vegetable production. A specialist, paid for by USAID instructed the Hogar del Niño farmers in building an 800 square meter greenhouse made from netting and a heavy plastic roof. The greenhouse has 2,600 tomato plants of improved, indeterminate varieties, (Match, Trust and Zoltano), that can grow up to 10 feet tall. By growing each plant in individual plastic bags, the farmers have better control of soil conditions and pest control, resulting in greater yields over a smaller area. The production yields when compared to traditional open field growing is particularly impressive. The national average per acre is approximately 250 fifty-lb



Greenhouse tomato plants can grow up to 10 feet high with yields far superior to open field tomato growing.

boxes, whereas greenhouse planting averages up to 6,000 fifty-lb boxes per acre.

The Hogar del Niño has already hosted five groups of between 10 and 20 farmers that have come to learn the new techniques. USAID provides "scholarships" to other private voluntary organizations to send farmers, participating in their programs, to the Hogar del Niño farm to "learn by doing". So far, the Adventist Development and Relief Agency (ADRA), Catholic Relief Services (CRS) and Project Concern International (PCI) have received scholarships.

Guillermo Isaac Herrera is part of a group of farmers from Jinotega, located about 114 miles north of Hogar del Niño, that came to learn green house farming.

"This is the first time I have seen a drip irrigation system. That system can really save me money," Herrera said. Herrera says he has always grown coffee and beans but now, after seeing 10-foot high plants, he plans to go home and plant tomatoes.



Local residents come to buy fresh produce at the Hogar del Niño. With help from USAID, the Hogar del Niño has pioneered vegetable cultivation in the department of Chinandega.

Economic Reactivation

USAID's agricultural program encourages farming methods that will help restore the economic livelihood for approximately 100,000 farmers while protecting the environment. The \$59.1 million economic development program promotes crop diversification, community irrigation systems and better farming methods that will increase yields and protect the environment. About 300,000 forest and fruit tree saplings have been distributed to farmers to stabilize watersheds.

Over 1,400 kilometers of rural roads will be repaired along with bridges and culverts. Construction of retaining walls and dikes will help prevent flooding and erosion. These projects have so far generated temporary employment for 24,000 laborers.



USAID Nicaragua

De la Rotonda
Centroamerica,
400 metros abajo
Managua, Nicaragua
Tel: (505) 267-0502
Fax: (505) 278-3828
<http://www.usaid.org.ni>